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## **Help Battle Against the Bugs**

By Zack Gross

The history of our planet is often divided up into Ages. There was the Stone Age, the Age of Enlightenment and the Modern Age, to name a few. In terms of their huge populations and impact on human kind, you could call the Twenty-first Century the Age of Insects. Worst of these creatures is the mosquito, spreading malaria and causing massive human misery particularly in Africa. The “big three” diseases on that continent are malaria, HIV/AIDS and tuberculosis.

Each year, there occur at least 300 million acute cases of malaria in the world, resulting in about a million deaths. Ninety percent of these deaths, mostly among young children, occur in sub-Saharan Africa. Often children who survive severe malaria face learning impairment once they recover. Economically, the fight against malaria absorbs 40% of African health care budgets while taking away the productivity of those who are suffering from it. It is a disease caused by poverty, as people don't have the means to protect themselves, and one that causes poverty.

Scientists discovered, about 125 years ago, that the cause of malaria is the transferring of the parasite Plasmodium from person to person by the female Anopheles mosquito, which requires blood to nurture her eggs. Previous to that time, they thought that bad air (mal-aria) from swamps caused the disease. Symptoms appear a week or two after the initial bite, in the form of fever, headache, vomiting and other flu-like manifestations. If not treated, or if the parasites are resistant to the treatment, the infection can progress rapidly to become life-threatening.

A number of initiatives have been launched to fight malaria in recent years. Insecticide-treated bed nets (ITNs) are the latest effort and have grabbed the attention of development agencies worldwide. Canadian celebrities Rick Mercer and Belinda Stronach have been prominent in promoting UNICEF's ITN program and many organizations, churches and schools are undertaking to raise the funds to supply African communities with these mosquito fighters.

ITNs offer personal protection but if a whole village uses them, the level of protection increases as mosquitoes are killed off by this “blanket coverage”, rather than just being chased away. The insecticides used on ITNs are not a danger to humans but are definitely lethal to mosquitoes. Nets need to be retreated once per year if they are being washed but new longer-lasting insecticide treatments are being developed.

One of the debates on-going is whether ITNs should be available free of charge to at-risk populations, or whether they should be widely available and sold at reasonable prices. As with all such public health debates, a little of both is happening, depending on political will and the operation of international organizations in various areas. Another

issue that affects malaria control is the growing resistance of mosquitoes to insecticidal sprays. People trying to control malaria are called upon to be conservative in their spraying programs to avoid the risk of acquired resistance. Large-scale fogging campaigns are really meant for epidemic situations as they can cause health problems as much as they seem to present solutions.

Many of the methods used to fight malaria globally have an application to us in the developed world. Well-constructed homes, doors and windows with screens, personal use of DEET repellents, wearing light-coloured long-sleeved shirts and long pants - all help to reduce mosquito-infected situations. Getting rid of standing water (or pouring rapidly biodegraded oil on it) and using biological controls, predator insects and fish and other methods can make a difference here, but in Africa, where the problem is more pervasive and educational and economic challenges exist, these are not prominently used.

Unfortunately, some well-meaning development projects or so-called modernization have increased the incidence of malaria. Irrigation systems, road construction, deforestation and new building sites all contribute to the increase of mosquito populations. More rigorous planning and environmental assessment must be done to ensure that these projects don't put local populations at risk, often in the name of economic and social improvement.

Coming up on April 25<sup>th</sup>, a month from now, is the annual Africa Malaria Day. African governments committed to meeting the United Nations Millennium Development Goals related to disease control, along with the UN Development Program, the World Bank and the World Health Organization, launched the Roll Back Malaria campaign in 1998. Forty-four African countries declared Africa Malaria Day in 2000 and funding has significantly increased to fight the disease. Eighteen countries where malaria is endemic have eliminated tariffs and taxes in order to make ITNs more accessible. Malaria Awareness Day will be marked in many developed countries in 2007 for the first time.

In our Global Village, a problem that arises in one area is likely to soon appear in another. This might be disease, war, environmental degradation, financial downturn and more. It is in our best interest to support the fight against disease and the pests that carry them, or we risk epidemic infection with nowhere to hide. Do your part to fight mosquitoes here and help support the fight against them in Africa.

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